

## 1. SAXICOLA CASTOR, ♂.

*Major; cinerea, remigibus fuscis; corpore subltus vix pallidiore; tetricibus caudæ superioribus albis; rectricibus 4 intermediis fusco-nigris, ternis lateralibus albis, apice late fusco-nigris, quarta nigricante, basi alba; rostro et pedibus nigris.*

Long. circa 7", rostr. 7", al. 4", caud. 2" 10", tars. 13½".

*Hab.* Karroo; Afr. mer. (*Layard*).

## 2. SAXICOLA POLLUX, ♂.

*Minor; cinerea, gutture pectoreque pallidioribus; abdomine imo, crisso et subcaudalibus albis; remigibus fuscis, primo apice conspicue emarginato-attenuato; rectricibus 4 mediis fusco-nigris, ternis lateralibus pogonio externo albis, interno fuscis, extima apice tota fusca, quarta apice latius fusca; rostro et pedibus nigris.*

Long. 6⅓", rostr. 6", al. 4" 1", caud. 2" 10", tars. 14".

*Hab.* Karroo (*Layard*).

*Obs.* Primo aspectu simillima præcedenti, sed minor, cauda alis et tarsis pro mole longioribus, subcaudalibus albis; rectricum coloribus alio modo dispositis.

8. ON THE GULAR POUCH OF THE GREAT BUSTARD (*OTIS TARDA*, LINN.). BY W. H. FLOWER, F.R.S., ETC.

In 'The Ibis' for 1862 (p. 107) Mr. Alfred Newton gave an exhaustive summary of the literature of the much-vexed question of the presence or absence of the "gular pouch" in the male Bustard, together with an account of a dissection performed by several competent persons (the author included), in which no trace of this remarkable organ was found. Stimulated to the research by Mr. Newton's remarks, Dr. W. H. Cullen of Kustendjie, in Bulgaria, took advantage of the frequent occurrence of the bird in his neighbourhood to renew the investigation, and found in each of the two specimens which he dissected a distinct and largely developed pouch. A description and figures of these were communicated to 'The Ibis' (April 1865, p. 143). The identical specimens having, through Dr. Cullen's kindness, been sent to the Museum of the Royal College of Surgeons, I have now the pleasure of exhibiting them to the Members of the Society, and of making a few observations upon their form and structure, confirmatory of, and supplemental to, those of Dr. Cullen.

Of the specimens received, the one consists of the lower mandible, the tongue, the hyoid apparatus, the upper portion (about 2 inches) of the œsophagus and trachea, and the gular pouch dissected away from all its attachments, except at its neck; the second is the pouch alone cut off through the neck; and this being therefore of comparatively little interest, I shall chiefly confine my observations to the first.

In the mesial line of the floor of the mouth, immediately under the root of the tongue, is a distinct and unquestionably natural opening. In what appears to be the usual contracted condition of

the parts, the opening is reduced to a T-shaped slit (the crosspiece, two lines long, being turned backwards), surrounded by well-marked deep folds of mucous membrane, which coming into apposition with each other close the orifice. These folds have a perfectly definite arrangement: traced up from the mouth of the orifice, the posterior ones are lost on the under surface of the tongue; those coming from the two sides diverge from each other, and run round the lateral parts of the base of the tongue; those from the anterior wall of the opening are continuous with the longitudinal folds on the middle of the floor of the mouth. The arrangement of these folds admits of great dilatation of the aperture, so that it will quite readily admit the introduction of the finger. When slightly distended, the opening becomes triangular, the hinder border straight and placed transversely at the base of the tongue; the apex, turned forwards, is continuous with the groove in the middle line of the floor of the mouth.

The pouch to which this opening leads is suspended by a somewhat constricted neck to the floor of the mouth, between the hinder part of the rami of the mandible; it may indeed be looked upon as a dilatation of that part of the floor situated immediately in front of the base of the tongue. A distinct but not very strong band of muscular fibres runs immediately beneath the mucous membrane of the mouth, on each side of the neck of the sack, meeting before and behind—evidently the sphincter mentioned by Dr. Cullen. It appears, however, to be only a part of the general muscular layer extending between the mandibles and the hyoid bone.

The sack itself when empty measured 9 inches in length, and, when moderately distended by allowing water to run in by its own weight, without any forcing, was found to hold three imperial pints; probably it could have been easily made to contain more, but that I did not wish to run any risk of bursting it. When thus distended it had an elongated pyriform shape, the larger end being turned upwards. Rather below the middle there was a gentle constriction. The walls of the sack are formed of a thin but perfectly distinct and tolerably strong membrane, composed of intersecting bundles of pale unstriped muscular fibres, united by connective or areolar tissue, and having numerous blood-vessels ramifying upon it. Externally it has evidently been but slightly connected with the surrounding parts by a loose areolar tissue. Internally it is smooth and lined by a distinct epithelium, continuous above with that of the mucous membrane of the mouth.

Both of the sacks had within them a few short pieces of grass and leaves\*. There appears to be no glandular structure connected with the walls; indeed the whole character of the sack points to its being a simple reservoir, probably for fluid, more analogous to the submandibular pouch of the Pelican than to anything else in the class Aves. But in the absence of fuller information as to the economy and habits of the bird, I refrain from speculating upon the purpose of this singular and apparently inconstant organ.

\* Grass-seeds have been observed by Naumann in the pouch of a Bustard (Newton, *loc. cit.*).